

Amendment To The Claims:

Below is a listing of claims that will replace all prior versions and listings of claims in the present patent application.

1. (Currently Amended) A peripheral interface device that is adaptable into a computer system and which provides a communication interface for a plurality of external devices remote from the computer system, the peripheral interface device comprising:

a plurality of transfer control logic (TCL) modules, wherein each TCL module provides a dedicated interface for an associated one of the remote external devices, and wherein multiple TCL modules can communicate in parallel with their associated remote external devices in near real-time with low latency; and

a dual port memory (DPM) device that is in communication with an input/output bus of the computer system, wherein the DPM device can selectively communicate with each of the plurality of TCL modules, wherein each of the TCL modules communicates with the DPM device in a round robin fashion.

2. (Canceled)

3. (Previously Presented) The peripheral interface device of claim 1, wherein each TCL module includes a system for initiating a write transfer to its associated remote external device.

4. (Previously Presented) The peripheral interface device of claim 3, wherein the system for initiating a write transfer places a write control signal on a dedicated write control signal line connecting the TCL module to its associated remote external device.

5. (Previously Presented) The peripheral interface device of claim 4, wherein the system for initiating a write transfer further supplies a count to the remote external device to indicate a number of bytes that is to be written.

6. (Previously Presented) The peripheral interface device of claim 1, wherein each TCL module includes a system for initiating a read transfer from its associated remote external device.

7. (Previously Presented) The peripheral interface device of claim 6, wherein the system for initiating a read transfer places a read control signal on a dedicated read control signal line connecting the TCL module to its associated remote external device.

8. (Previously Presented) The peripheral interface device of claim 7, wherein the system for initiating a read transfer further supplies a count to the remote external device to indicate a number of bytes that are to be read.

9. (Previously Presented) The peripheral interface device of claim 1, wherein each TCL module includes a system for handling a read transfer request from its associated remote external device.

10. (Original) The peripheral interface device of claim 1, wherein the DPM includes a set of write transfer regions for each TCL module region, wherein each write transfer region is utilized to store data being transferred from the computer system to a target TCL module.

11. (Original) The peripheral interface device of claim 1, wherein each TCL module includes a control register for controlling data transfers between the computer system and the TCL module.

12. (Previously Presented) The peripheral interface device of claim 1, wherein the DPM stores read data available to the computer system, wherein the read data includes register data from a remote external device, urgent remote external device data, or TCL status data, wherein the urgent remote external device data is data that is necessary for the computer system to make control decisions in near real-time with low latency.

13. (Previously Presented) The peripheral interface device of claim 1, wherein each TCL includes a system for accepting urgent data from the associated remote external device, and transferring the urgent data to the DPM, wherein the urgent data is data that is necessary for the computer system to make control decisions in near real-time with low latency.

14. (Original) The peripheral interface device of claim 13, wherein the urgent data includes an interrupt signal.

15. (Previously Presented) The peripheral interface device of claim 1, wherein said peripheral interface device comprises a PCI adapter card.

16. (Original) The peripheral interface device of claim 15, wherein the input/output bus comprises a PCI bus.

17. (Currently Amended) A computer system, comprising:

a processing unit;

a memory;

an I/O bus coupled to the processing unit and memory; and

a peripheral interface device which provides a communication interface for a plurality of external devices remote from the computer system, wherein the peripheral interface device includes:

a plurality of transfer control logic (TCL) modules, wherein each TCL module includes an interface for a dedicated remote external device, and wherein multiple TCL modules can communicate in parallel with their respective dedicated remote external devices in near real-time with low latency; and

a dual port memory (DPM) device that is in communication with the I/O bus, wherein the DPM device can selectively communicate data with each of the plurality of TCL modules, wherein each of the TCL modules communicates with the DPM device in a round robin fashion.

18. (Canceled)
19. (Previously Presented) The computer system of claim 17, wherein each TCL module includes a system for initiating a write transfer to its dedicated remote external device.
20. (Previously Presented) The computer system of claim 19, wherein the system for initiating a write transfer places a write control signal on a dedicated write control signal line connecting the TCL module to its dedicated remote external device.
21. (Previously Presented) The computer system of claim 20, wherein the system for initiating a write transfer further supplies a count to the remote external device to indicate a number of bytes that is to be written.
22. (Previously Presented) The computer system of claim 17, wherein each TCL module includes a system for initiating a read transfer from its dedicated remote external device.
23. (Previously Presented) The computer system of claim 22, wherein the system for initiating a read transfer places a read control signal on a dedicated read control signal line connecting the TCL module to its dedicated remote external device.
24. (Previously Presented) The computer system of claim 23, wherein the system for initiating a read transfer further supplies a count to the remote external device to indicate a number of bytes that are to be read.

25. (Previously Presented) The computer system of claim 17, wherein each TCL module includes a system for handling a read transfer request from its dedicated remote external device.

26. (Original) The computer system of claim 17, wherein the DPM includes a set of write transfer regions for each TCL module region, wherein each write transfer region is utilized to store data being transferred from the I/O bus to a target TCL module.

27. (Original) The computer system of claim 17, wherein each TCL module includes a control register for controlling data transfers between the I/O bus and the TCL module.

28. (Previously Presented) The computer system of claim 17, wherein the DPM stores read data available to the I/O bus, wherein the read data includes register data from a remote external device, urgent remote external device data, or TCL status data, wherein the urgent remote external device data is data that is necessary for the computer system to make control decisions in near real-time with low latency.

29. (Previously Presented) The computer system of claim 17, wherein each TCL module includes a system for accepting urgent data from the dedicated remote external device, and transferring the urgent data to the DPM, wherein the urgent data is data that is necessary for the computer system to make control decisions in near real-time with low latency.

30. (Original) The computer system of claim 29, wherein the urgent data includes an interrupt signal.

31. (Original) The computer system of claim 17, wherein said peripheral interface device consists of a PCI adapter card.

32. (Original) The computer system of claim 31, wherein the I/O bus comprises a PCI bus.

33. (Currently Amended) An interface card adaptable into a computer system to provide communications to a plurality of external devices remote from the computer system, wherein the interface card includes:

a plurality of transfer control logic (TCL) modules, wherein each TCL module includes a system for independently interfacing with a dedicated remote external device in ~~near~~ real-time with low latency;

a memory device that is in communication with an I/O bus of the computer system; and

control logic that provides shared communications between the memory device and the plurality of TCL modules, wherein the memory device communicates with each of the plurality of TCL modules in a round robin manner.

34. (Previously Presented) The interface card of claim 33, wherein each TCL includes:

means for initiating a write transfer to the dedicated remote external device;

means for initiating a read transfer from the dedicated remote external device; and

means for handling a read transfer from the dedicated remote external device.

35. (Canceled)